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Title: The Challenge of the Seamless Force: The Role of Informal Networks in Battlespace

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The Challenge of the Seamless Force: The Role of Informal Networks in the Battlespace

Introduction

The concept of the Seamless Force envisages a force that is not only Joint, but also incorporates permanent and part-time members of the three Services, and includes Defence civilians, other supporting government agencies, contractors, allies and coalition partners. The Seamless Force is built on the skills and qualities of the individual warfighter and thus its single most valuable element is the well-trained, educated and motivated human being.

Inherent in most discussions about the nature of such future forces are some untested assumptions about how humans and organisational elements will behave and function in this new environment. For instance, the assumption that existing organisational structures, procedures and processes will be able to seamlessly incorporate technological advances and harmonious interaction in new configurations of mixed units might be, at least potentially, erroneous. There are many unexplored challenges originating from human capabilities to function in such situations. Clearly, a close examination of the issues that should be considered is required.

The authors of this paper are a team of researchers from the Defence Systems Analysis Division of the Australian Defence Science and Technology Organisation (DSTO) investigating such issues as part of its task on the Human Dimension of Future Warfighting (HDoFW). This research examines broad psychosocial issues that need to be considered to fully exploit NCW (Network Centric Warfare) and other future operating concepts. Moreover, the research is designed to elucidate these issues so they become an integral part of concept development for future warfare. It is envisaged that the development of these concepts will have implications for the Australian Defence Force (ADF) and the Australian Defence Organisation (ADO) in terms of organisational structures, and training and education initiatives.

The research team is currently in the process of interviewing personnel returning from deployment in the Middle East in an attempt to capture the human lessons learned in operations. While only a small sample of personnel has been interviewed to date, some common issues are already emerging. While all of these issues will be reported on as the research progresses, the focus of this paper is the role of relationship building and informal networks in facilitating information exchange and consequently, decision making within joint and coalition forces in battlespace.

Methodology

Semi-structured interviews are being conducted with personnel who have returned from deployment to the Middle East. Some interviewees (also referred to as 'participants') had also served in East Timor. The sample, stratified across Services, gender and ranks, ranging from Private (and equivalents) to Brigadier (and equivalents), has, to-date, involved thirty-five interviewees (over sixty hours interview time). One civilian member of the ADO who had worked on reconstruction in Iraq was also included in the

sample. The interview process is still ongoing and the aim is to substantially increase the sample to extend and validate the findings. The team is also planning to interview personnel, both military and civilian, who have been involved in Operation Sumatra Assist, as the post-tsunami reconstruction has depended on significant co-operation between the military and civilian relief organisations. However, this paper is based on the interviews conducted with personnel who have been recently deployed in the Middle East.

During the interviews, questions relating to the following issues were asked:

- pre-deployment training and preparation
- duties during deployment
- decision-making processes
- command and control (C2) arrangements and processes
- interdependence between Services, nations (or other agencies)
- information gathering and sharing
- communication flows and channels
- the importance of particular skills and competencies
- lessons learned.

Interviews were transcribed, coded and analysed. Although each interviewee related their own perceptions and reflections on the issues outlined above, there are several common themes that have already emerged. Some of these common perceptions are presented in the next sections, in the words of the interviewees themselves.

Views from the Battlespace

Several common and often interrelated themes emerged from the interviews. These include issues relating to training and preparation for deployment, military/Service culture, C2, autonomy and empowerment, relationships and trust, information sharing, information overload, uncertainty, morale, and training and education.

An important, underlying theme that emerged was the value of informal networks for information sharing and gathering. The emergent and constantly changing nature of informal networks is prominent in the data. Moreover, the knowledge and understanding gained of the other party, and the trust created as a result of this type of interaction and relationship building, was reported as forming the basis of successful working links between the different parties and facilitating effective cooperation between the different organisational entities. According to Uncertainty Reduction Theory (Berger, 1987; Berger and Bradac, 1982), the efforts of these personnel to establish informal networks for information sharing can be explained by the desire to reduce uncertainty (Leblebici and Salancik, 1981; Granovetter, 1985; Miller and Monge, 1985; Baker, 1987; Burkhardt and Brass, 1990; Kramer, 1996). Other researchers, eg. Krackhardt and Stern (1988) and Larson, (1992) explain the association between informal communication linkages and trust, or the perception of trust, as a prerequisite for the increased inter-unit coordination that is required during periods of high uncertainty and potential conflict.

This paper uses the voices of the interviewees to present the lessons learned in relation to informal networks and the way in which the participants shared information, worked together and cooperated in an attempt to make the seamless force a reality in the fog of

Iraq. Quotes that are representative of the relevant theme are used to privilege the voices of the participants themselves, rather than those of the researchers or theorists. Some words in quotes have been suppressed or de-identified to protect the anonymity of the interviewee.

Military Culture and Identity

For many participants, deployment to the Middle East was their first experience of the need to work closely with personnel from other professions, Services and/or nations. Thus, they often spoke at length about the similarities and differences between their professional, Service and/or national cultures and expressed their thoughts about how this may affect their work and modern operations more generally. A salient theme in this respect concerned the strong cultural or 'in-group' identity that characterised effective teamwork and cooperation. Specifically, participants often spoke about how the culture of their profession, Service, or nation provided a sense of shared purpose and thus a basis for cooperation:

...to work in the environment, you've got to have the street credibility of having done the stuff – when you're tasking people to do it, you need to have been there and done it yourself so you know what you're asking people to do. And if you're sitting beside, you know, an F16, F15 pilot, you can't be an air defence officer and do that, you need to be an F18 pilot. It's as simple as that. Otherwise you're not part of the team for a start...there's certain badges you've got to wear into these things to bloody get entry...and belong.

Another participant spoke of how a shared sense of Service (in this case, Navy) identity underpinned cooperation through a sense of friendly competition:

...imagine having all these people that do the same job for their unit, or for their country, or for their ship. They all come together as one and the thing that drives them is "We're better than them, and we're better than them"...and at the same point of time they're cooperating...I think it all comes back to the fact that they're just Navy. Whether you're Navy Australian, US, or British.

The comments of a senior officer interviewed provide some insight into the importance of effective leadership in generating and maintaining a sense of in-group identity:

...probably the toughest thing in our group...the guy who led our team, I suppose, our group, was a ... and his experience and leadership styles weren't very strong, so I personally had to find myself, as the next senior person, to have to step up and appease some of the senior soldiers, the warrant officers, and act as a mediator, you know, protecting, you know, the group's interests.

Given the need for personnel to develop cooperative relations with those of other professions, Services, or nations, it was not surprising to find that knowledge of other cultures was widely regarded to be particularly valuable:

If you need to rely on or interoperate between two different nations, it's just a matter of getting in there. You know, I suppose the trick for people who haven't worked with the US before is to understand their work ethos and culture.

Also not surprisingly, personnel often spoke of clashes in culture in their explanations of the difficulties in achieving cooperation. For example, one officer recalled:

I did see that where new tradesmen were brought in to replace other tradesmen who finished their tours, and that is where I saw some interesting clashes, and once again, just between different cultures of bringing in other Service personnel...bringing in Air Force personnel to replace Army personnel and vice versa, and people just have different expectations on what is required.

Whether their experience was positive or negative, it is clear that one of the lessons arising from participants' experiences in the current conflict in Iraq is the need for a better cultural understanding. This understanding should extend, not only to the enemy and the local population, but, possibly of equal importance, to other foreign militaries within the coalition and of the different Services within one's own National forces.

Relationships and Trust

Interdependence and effective collaboration is at the core of a Seamless Force. In many locations in the Middle East theatre, interdependence with other Services and countries in Joint and Coalition units was a fact of everyday life. Some interviewees found this problematical, for example:

All the coalition needed to be educated on the fact that you are a coalition regardless of whether we went there knowing we were a coalition or not. Everyone was very single Service, single country focused.

Others found that collaboration with other units within the Australian contingent and with the Coalition forces was dependent, to a large degree, on building good relationships. Collaboration provided access to information, equipment, parts and general support. Good interpersonal relationships, in turn, enabled the development of trust. Often, this trust was consciously developed through face-to-face contact, and once established, facilitated further collaboration through both formal and informal networks.

This need to establish good working relationships and trust was recognised by many interviewees, as illustrated in the following comments:

...it took a long time for me to build up personal relationships with the American ... staff where they trusted us enough to be able to [support us]... the fact that we're Australians, the fact that we're supporting their operations means nothing to them. It's all about trust.

...when you need to direct those [units] ... if you don't have that rapport with them, then that is kind of difficult, considering all they have got to do is hang up the phone or, you know, blow you off.

Without the trust and interaction, on a social level, where they were happy to have a joke with us and establish something like what we would call "mateship", where they were happy to respond to any requests we might make, it would have been much more difficult. We did see examples of people trying to get what they wanted without that, from people they didn't know, especially across the two countries [US and Australia]... the results were varying.

It is still about building a relationship, I think, because to get something out of someone that they do not necessarily want to give up, then it is all about them knowing and trusting and liking [you] and thinking there is going to be a mutual benefit out of it.

Coalition

The following were typical of comments on relationships with the Coalition, which include the occasional comments on unsatisfactory interactions:

They do things a lot different to us...where we would have a corporal or someone managing a server, they have officers... quite often I found them almost, not treating us with contempt, but kind of like not taking us seriously. It was kind of like that, "Yeah, run away, little Australian," you know ... I think they just see themselves as the be all and end all, and don't fully appreciate the skill-sets of the capability we bring to the party. So, once again, that's probably just us having to exercise or operate with them a lot more until they understand us.

However, the majority of comments described successful interactions built on cultivated friendships:

So, if they weren't getting any joy with the Americans - their offsidiers, they would come to me and say, "Hey listen, we're trying to shape this collection effort, or we're trying to...We're not getting any joy through this level." I would then take it straight across to the American ... who was a lieutenant colonel and, because I'd built those relationships, but also because he was good guy, he would bend over backwards to make sure that we got what we needed and I guess that sort of became my role in many regards.

It was basically good business as far as we were concerned to keep up good relationships with the Americans. We took it as an opportunity to draw on their mass of knowledge and experience...So, to work with these guys and to take on as much information as you could, was invaluable.

Relationship is very important to the Americans. So, to get one item, be prepared to talk conversation for an hour.

Joint

Relationships within the Joint environment (Australian Navy, Army and/or Air Force working in integrated units) were similarly varied, but, in this case, the majority of comments were typically about the Services' lack of understanding about each other, their training, their skills set and their Service-specific ways of operating:

...I had an Air Force corporal under me who I found is very different to an Army corporal...One thing I found with Air Force is...you can have two Air Force corporal technicians and their skill sets are totally different, depending on their postings, where they've been. Where Army, we do, on our promotion courses and training courses, everyone does the same training.

Navy officers know their stuff...the seaman officers...so, in terms of warfighting ...I had inherent trust... Shocking [however] at all officer kind of stuff, you know, the officer cult ...and...I cringed every time they talked to my

soldiers or, you know, said, "Don't worry, call me mate," type thing and I went, "Oh." As they walked away, "You're not calling him mate, ever. You're calling him sir," you know, that type of thing.

Relationship building within work teams on operations was also considered important by the majority of interviewees:

Just sort of say, "You're a part of this team here. We value you". You know, and when parcels come in you share the goodies around... These are very small examples, but together they build that jigsaw of trust and responsibility. You get into some screaming barneys ...but you also accept that that's just part of it...You accept that sometimes somebody is going to fly off the handle. And they will feel bad about that and they will come back later...You know, we all went through that.

Probably the thing I was under-prepared for was the personnel aspects, essentially the man management side of things ...you are living in the same compound...in the same room and area, and there is no escape. You have to take a step back and behave quite differently because you are in a situation where there is a high threat, you are being attacked. ... The management of those interpersonal and command relationships 24-hours a day was very difficult.

Clearly, informal, face-to-face contact was perceived to be the most effective way of establishing rapport and building relationships:

Sit down and have a brew and talk to them or go to the gym with them...whatever it took, you know, it takes a lot of time out of your schedule so, you know, that was one of my key points when we came back was the time it takes to build those relationships to get information.

I don't do email to anyone in my battalion. Everything is face to face because they say for mission command, "We've got to know - we've got to understand each other".

Information sharing

As already indicated in numerous earlier quotes, information sharing is clearly inextricably linked to relationship building. Several themes relating to information gathering and sharing emerged from the interviews. Arguably, the most important one is that information gathering and sharing cannot be assumed to be a natural and direct consequence of the existence of network or other technological communication links between different parties. Face-to-face or voice interaction was often preferred to electronic means of communication, even when these were available. It was frequently mentioned that pre-establishment of at least some level of informal relationship was an important enabler or precursor of information gathering and sharing activity, for example:

How did I get the information? Word of mouth. Walking around, talking to a lot of people ... You would - you would find out who's the person you need, who's got that piece of information, or may have that piece of information, or knows who knows somebody who has that piece of information. And you

would just start ringing, walking, phoning. ... it was all personality based. ... the networks, in a sense, were person to person, personality based networks.

... they did not build the relationships they needed. Again, a lot of people – I learnt a lot of stuff off the Americans that a lot of other people did not know because I would spend two or three hours saying “Hi, this is who I am.” You know, I would give them stuff or get back from them. Other people within the Australians were doing that, too, but yes, a lot of people – the Americans were cagey about giving out information but if you made the right contacts you got the information you needed.

I had to consult [the Americans] as to whether they were happy with the designs that we had for the new structure and whether they had the resources to supply those. I would get in the car and go and see them (rather than send them an email).

Information is also evidently not only preferentially gathered from sources, but also shared with other individuals or groups with whom a typically personal and/or socially based link has already been established. For instance:

Sometimes I was really nervous about [sharing information] and I was generally quite cagey, I suppose. But again, my idea was firstly to get to know them. [Otherwise], they would ask me questions and I would often defer to a senior officer. “Sorry, I can’t answer that, you know”. Shunt it off to someone else who can make the decision.

Informal, non-technological-based means of information gathering and sharing also continue to be very important, even given technological connectivity and means of communication. For example:

Largely it was all informal, “Did you hear that last night?” “Yes, where did it come from?” “We think somewhere over there.” So, you would give them very general hints, but you could not tell them [the details] or anything like that. You could not tell them what was going on. So, I suppose, what we decided on and what was decided on as a group was that you cannot tell them specific events, because you just were not allowed. They were classified and you cannot talk about them, but you would tell them general things to keep them safe. You did not want them to die.

and:

... because once it is on paper everyone can say that you have said it. So, while the e-mail is supposed to be informal, that is a load of hogs wallop, I know it gets stored. So, if I was ever worried about something I was going to say, then I would ring someone up and say in a caged way, talk to them.

Conclusion

While it must be acknowledged that the sample used for this research is too small to make definitive conclusions, as yet; it is adequate enough to identify issues that are perceived to be problematical by the warfighters themselves, and issues that may impact on the ADF’s potential to develop and sustain the ideal of the Seamless Force.

It is clear that there is typically a high level of interdependence between different individuals and units as well as, in international operations such as the Iraqi conflict, whole armed forces. The question is what effects the new technological environment, with its networks and communication capabilities, already has and is increasingly going to have in the future on this interdependence and how it is managed.

The views of the warfighters expressed in this paper strongly suggest that the way in which humans organise themselves, share information, work together and cooperate in a network-centric environment has much more than might be expected in common with the way they manage in less technologically sophisticated situations. More specifically, it is evident that the establishment of relationships at a personal level through face-to-face and often socially mediated means can not only be of assistance but even be crucial in enabling more effective cooperation to occur between different organisational entities than would otherwise be the case. It is the knowledge and understanding gained of the other party, and the trust created as a result of this type of informal interaction and relationship building, which forms the basis of successful working links between the different parties concerned.

Based on the interviews, there are two types of trust that can be identified and are of interest. One type is competence-based trust which focuses on people's ability, expertise and competence to do a job and to know what they are talking about. The other type is trust based on benevolence. It is this type of trust that we most identify with, i.e. I know you will not think of me as ignorant when I ask certain questions, therefore, I am not afraid to ask these questions. This type of trust touches on our vulnerability and it is only when this type of benevolent trust is present that we can learn new things and grow both professionally and as individuals (Cross and Parker, 2004).

Computer networks and sophisticated communication capabilities may form an important and even major part of the actual mechanism by which information sharing and other cooperative activities occur and are managed. However, the initial decision to share and cooperate does not happen just because the technological means or even the situational imperative exists to do so, but rather because the relevant relationships pre-exist or the necessary effort has been invested in creating them.

Interestingly, and not incompatibly with the foregoing findings, a major benefit of the networked nature of the forces in Iraq was the morale boosting effect on the personnel there - their ability to use the network technology to continue and nurture their relationships with family back home. The technology tends not, of itself, to lead to the creation of new relationships or links but rather is more important in supporting those that have been established through other means. What is a more surprising outcome of this study to date, is that there is an important role for such informal networks within the battlespace itself, not just as a remote, domestic support mechanism for those within it.

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The Challenge of the Seamless Force

The Role of Informal Networks in the Battlespace

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Overview

- Background
- The research program
- The role of informal networks
- Summary and implications
- Discussion



Background

- The ‘Seamless Force’
- The aim of the research project
- Issues become integral to concept development and thereby ADF/ADO structures, training, education initiatives



The research program

- Third deliverable of the project
- 82 personnel returned from Middle East
- Stratified across ranks, Services, gender

Sample

Summary PivotTable (completed interviews)

Count of Gender	Servic ▼	Gend ▼										
	Army		Army Total	Navy		Navy Total	RAAF		RAAF Total	Civ	Civ Total	Total
Rank equiv. ▼	M	F		M	F		M	F		M		
1 (BRIG / CDRE / ACDRE)	1		1	1		1						2
2 (COL / CAPT / GPCAPT)	1		1	1		1	5	1	6	1	1	9
3 (LTCOL / CMDR / WGCDR)	6		6	6	1	7	3	1	4			17
4 (MAJ / LCDR / SQNLDR)	6	2	8	1	1	2	5		5			15
5 (CAPT / LEUT / FLTLT)	5	1	6	1	1	2	5	2	7			15
6 (LT / SBLT / FLGOFF)	2	1	3				2	1	3			6
8 (WO1 / WO / WOFF)	3		3	1		1						4
9 (WO2 / CPO / FSGT)	3		3	1		1						4
10 (SGT / PO / SGT)		1	1	1		1	3		3			5
11 (CPL / LS / CPL)							2	1	3			3
12 (PTE / AB / LAC)					1	1	1		1			2
Total	27	5	32	13	4	17	26	6	32	1	1	82



Focus areas

- Pre-deployment preparation & training
- Duties whilst deployed
- Decision-making processes
- C2 arrangements
- Interdependence
- Information gathering
- Information sharing
- Communication flows
- Skills and competencies
- Lessons learned



Informal networks underpinning...

1. C2 arrangements & processes
2. Military/Service culture
3. Relationships and trust
4. Information sharing
5. Uncertainty reduction
6. Morale



Command & control

- Convoluted and confusing.
- Service-specific: some duplication
- Emergence of ‘informal’ C2 processes.

We are sufficiently small that you can in fact ignore certain chains of command and just ring up CDF or just go here or go there and you will still get the outcome that you are trying to achieve. You might annoy a hell of a lot of people on the way, but you can afford to do it.



Military/Service culture

- Strong 'in-group' identity characterised effective cooperation.
- Informal networks provided knowledge of other military/Service cultures - highly valuable.
- 'Clashes' of culture associated with a lack of cooperation.

I did see that where new tradesmen were brought in to replace other tradesmen who finished their tours, and that is where I saw some interesting clashes, and once again, just between different cultures of bringing in other Service personnel...bringing in Air Force personnel to replace Army personnel and vice versa, and people just have different expectations on what is required.



Relationships & trust

- Service/national boundaries sometime barriers.
- Strong personal relationships & trust underpinned collaboration.
- Essential for access to knowledge, information and other resources.

...because I'd built those relationships...he would bend over backwards to make sure that we got what we needed and I guess that sort of became my role in many regards.

It was basically good business...to keep up good relationships with the Americans. We took it as an opportunity to draw on their mass of knowledge and experience...So, to work with these guys and to take on as much information as you could, was invaluable.



Information sharing

- Not a direct consequence of existing IT links.
- Face to face sharing of information preferred.
- Informal social linkages define preferred channels.

Sometimes I was really nervous about [sharing information] and I was generally quite cagey, I suppose. But again, my idea was firstly to get to know them. But, I did not have much time. They would ask me questions and I would often defer to a senior officer. “Sorry, I can’t answer that, you know”. Shunt it off to someone else who can make the decision.



Uncertainty

- The operational environment
- Military capabilities
- Role uncertainty

I knew who my boss was. I knew the type of organisation that I was working for. But I didn't know where I was working in that organisation, who I was reporting to, what my specific skills required, or whatever else.



Morale

- Inextricably linked to nature of work performed (boredom & routine)

The last month and a half, yeah about six weeks, was groundhog day...I'd read all the books in the Headquarters...And even the Australian Headquarters tried to vary their routine, although that was harder for them because they were stuck in the compound doing the same job every day.

- Contact with family a double-edged sword.
- Good peer relations buffer against low morale

I think probably the one thing that you could always rely on, and would be there for you, would be the rest of the people in the contingent.



Implications

- Team work

...you need a team that is going to be coherent under stress...a dream team, and you never get one of those, but if I had the chance to pick the dream people I would pick people that worked well together.

- Joint and Coalition training

The whole working in the Joint environment, we need to do a lot more of that. And I think that starts at the training; we need to re-align and we need to align our Service communications, skillsets and training.

Visibility or knowledge of what the other Services' skillsets are and how they operate. And what - what backgrounds, I suppose, each of them have. Or if you are an Army guy, to have knowledge of what the naval assets are. Same with the Air Force and vice versa, so all around tri-Service type knowledge.

- Operational experience



The way ahead

- Increasing the sample size and continuing capturing perspectives from the Middle East
- Small-scale simulation to test these findings (eg based on the game of 'Go')



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Technology Organisation

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Discussion and questions

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